Title: SYSTEM AND METHOD FOR MONITORING OR REPORTING BATTERY STATUS OF IMPLANTABLE MEDICAL DEVICE

REMARKS

This responds to the Office Action dated March 22, 2006. Claims 1, 4, 8, 10-11, 13-15 and 22-23 are amended. Claim 9 is canceled. Claims 24-45 are added. As a result, claims 1-8 and 10-45 are now pending in this patent application.

Objection to the Drawings

The drawings were objected to because they appear to be informal. Applicant submits formal drawings herewith.

Further, the drawings were objected to because they did not show every feature of the invention specified in the claims. Accordingly, Applicant has amended the drawings to incorporate every feature of the claims. Applicant respectfully submits that such amendments to the drawings are fully supported by the claims, as originally filed, and therefore do not introduce new matter.

FIG. 1 has been amended to show averaging circuit 126, a first memory location 128, a second memory location 130, a third memory location 132, and a fourth memory location 134.

FIG. 2 has been amended to show the method comprising, at 216, measuring the device temperature, at 218, comparing the device temperature to a temperature threshold, and, at 200, discounting the measured battery terminal voltage if the measured temperature is below the temperature threshold.

In view of the above, Applicant respectfully requests withdrawal of the objection to the drawings.

Objection to the Abstract

The abstract was objected to due to an informality. Applicant has amended the abstract to overcome this objection. Accordingly, Applicant respectfully requests withdrawal of the objection to the abstract.

Objection to the Specification

The specification was objected to due to various informalities. Applicant has amended the specification to overcome this objection. Further, Applicant has amended the specification to

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describe the amendments to the drawings. Applicant respectfully submits that support for such specification amendments are found in the originally-filed claims, and do not introduce any new matter. Accordingly, Applicant respectfully requests withdrawal of the objection to the specification.

Objection to the Claims

The claims were objected to due to various informalities and typographical errors. Applicant has amended claims 4, 8, 11, and 13 to overcome this objection. Applicant notes that such amendments were made to correct minor informalities and typographical errors, and not in response to a prior art rejection of the claims. Applicant respectfully requests withdrawal of this objection to the claims.

Allowable Subject Matter and New Claims

Claims 4, 8, 11 and 18 were objected to, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Accordingly, Applicant is presenting new claims 24-27, which Applicant believes incorporate the spirit of what the Examiner indicated to be allowable.

New claim 24 incorporates the subject matter of previously presented claims 1, 2, 3, and 4.

New claim 25 incorporates the subject matter of previously presented claims 1, 2, 5, 7, and 8.

New claim 26 incorporates the subject matter of previously presented claims 1, 2, 9, and 11.

New claim 27 incorporates the subject matter of previously presented claims 15, 16, 17, and 18.

Accordingly, Applicant respectfully requests allowance of new claims 24-27.

Further, Applicant is presenting new claims 28-45 to more particularly point out and distinctly claim certain aspects of the present subject matter. Applicant respectfully submits that such new claims 28-45 are fully supported by various portions of the specification, including the abstract, at page 6, lines 14-18, and in originally-filed claims 1-5, 7-8, 11-13 and 15-22.

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Therefore, Applicant respectfully submits that no new matter is introduced. Applicant respectfully requests consideration of and allowance of new claims 28-45.

§103 Rejection of the Claims

Claims 1-2, 5-6, 9-10, 12-16, 19-20 and 22-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mann (U.S. Patent No. 5,800,472) and Gurewitsch (U.S. Patent No. 6,400,988). Applicant has cancelled claim 9, thereby mooting this basis of rejection of claim 9. With respect to claims 1-2, 5-6, 10, 12-16, 19-20 and 22-23, Applicant respectfully traverses.

Applicant cannot find in the cited portions of these references any disclosure, teaching, or suggestion of establishing voltage thresholds as a function of a measured rate at which the charge is delivered by the battery, as presently recited or incorporated in these claims. Instead, Mann apparently discloses using different voltage thresholds for rate-responsive and non-rate-responsive pacing modes. Mann apparently does not actually measure rate of charge delivery from the battery. Thus, for example, Mann would be incapable of using different voltage thresholds for different rates of charge delivery within the same pacing mode. By contrast, the present claims would permit different voltage thresholds even within the same pacing mode, if different rates of charge delivery from the battery are measured. Gurewitsch apparently measures current to determine actual remaining energy of the depletable power source. (See Gurewitsch at col. 2, lines 1-5.) However, Gurewitsch also states:

The tolerances in the battery voltages measurements as well as battery impedance have too wide a variance to provide an adequate time margin for replacement after an indication of RRT [recommended replacement time]. Many implantable devices are thus explanted based upon these inadequate measurements.

(See Gurewitsch at col. 1, lines 43-46.) Thus, Gurewitsch not only fails to disclose, teach, or suggest establishing any voltage threshold based on measured charge delivered by the battery, it actually teaches away from any use of voltage thresholds. Therefore, Gurewitsch necessarily teaches away from being combined with Mann in the manner of the Office Action.

Because all elements of claims 1-2, 5-6, 10, 12-16, 19-20 and 22-23 are apparently not disclosed, taught, or suggested in the cited portions of the cited references, and because there is no motivation to combine the references in the manner of the Office Action, and further because the references actually teach away from such a combination, Applicant respectfully submits that

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no prima facie case of obviousness presently exists with respect to these claims. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of these claims.

With respect to dependent claims 2, 5-6, 10, 12-13, 16, 19-20 and 22, Applicant respectfully submits that such claims include patentable subject matter beyond that recited in their respective base claims, and Applicant reserves the right to later present further remarks concerning such dependent claims.

- 2. Claims 3, 7 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mann (U.S. Patent No. 5,800,472) and Gurewitsch (U.S. Patent No. 6,400,988) as applied to claims 1, 6 and 15 above, and further in view of Barreras et al. (U.S. Patent No. 4,556,061). Applicant respectfully traverses on the ground that no prima facie case of obviousness presently exists with respect to these claims for the reasons discussed above with respect to the § 103 rejection of claims 1-2, 5-6, 10, 12-16, 19-20 and 22-23. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claims 3, 7, and 17.
- 3. Claim 21 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Mann (U.S. Patent No. 5,800,472) and Gurewitsch (U.S. Patent No. 6,400,988) as applied to claim 15 above, and further in view of Er (U.S. Patent No. 6,185,461). Applicant respectfully traverses on the ground that no prima facie case of obviousness presently exists with respect to these claims for the reasons discussed above with respect to the § 103 rejection of claims 1-2, 5-6, 10, 12-16, 19-20 and 22-23. Accordingly, Applicant respectfully requests withdrawal of this basis of rejection of claims 3, 7, and 17.

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6951 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The <u>undersigned hereby certifies that this correspondence</u> is being filed using the USPITO's electronic filing system EFS_Web, and is addressed to: Commissioner of Patents, P.O. Box 1450, Alvandria, VA 22313-1450, on this 3⁻/₂ day of 4⁻/₂ 4926.

Name

Signature